

FIG. 1

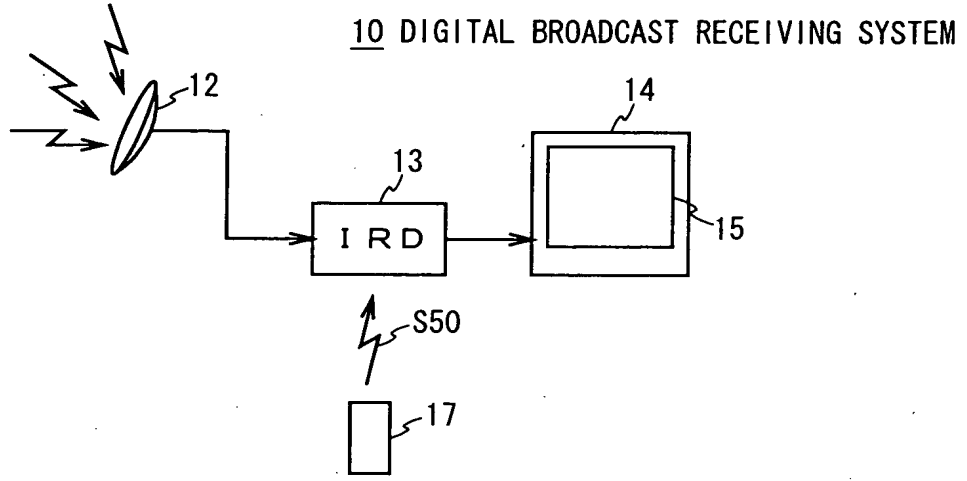


FIG. 2

13 IRD

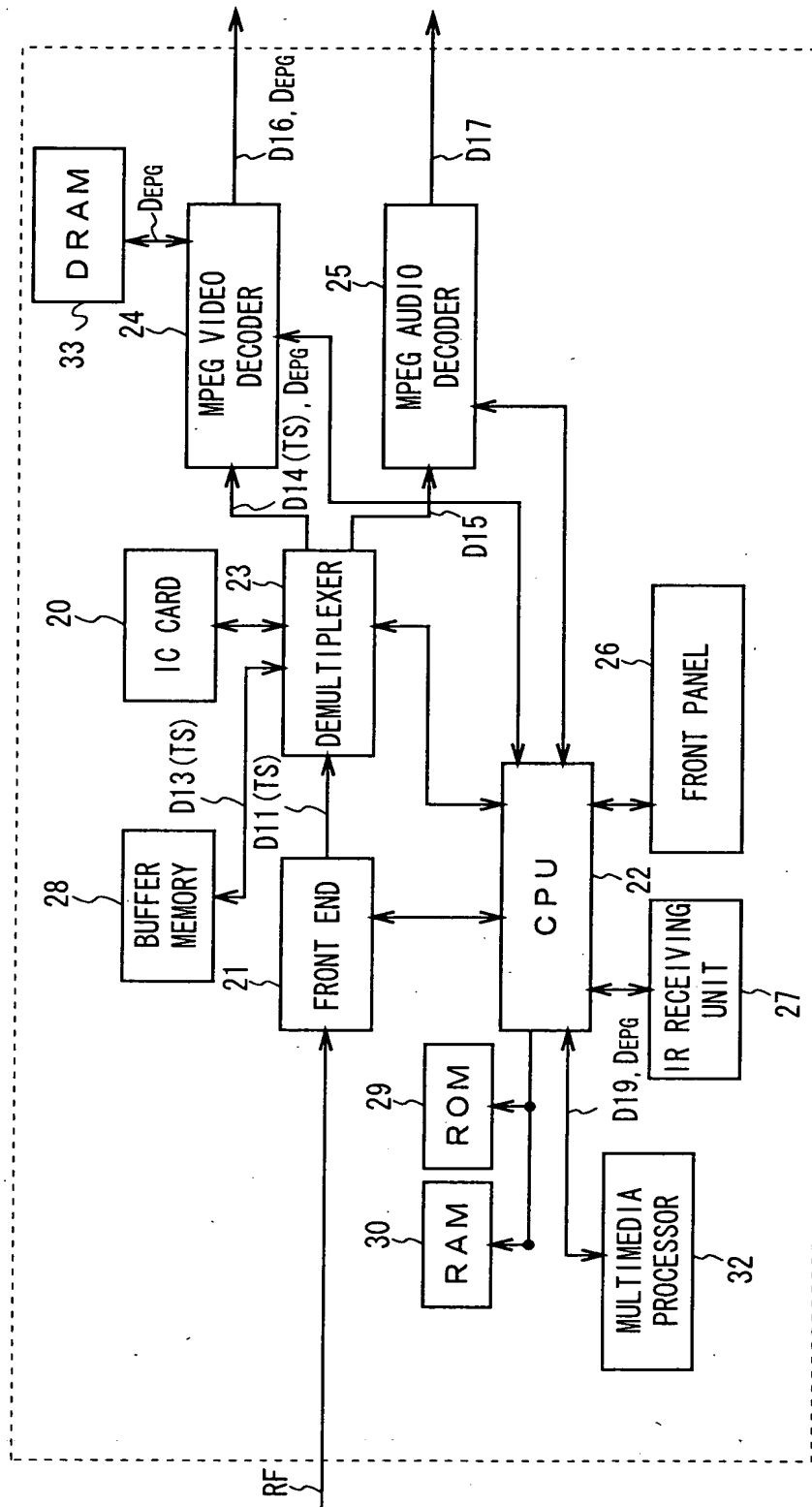
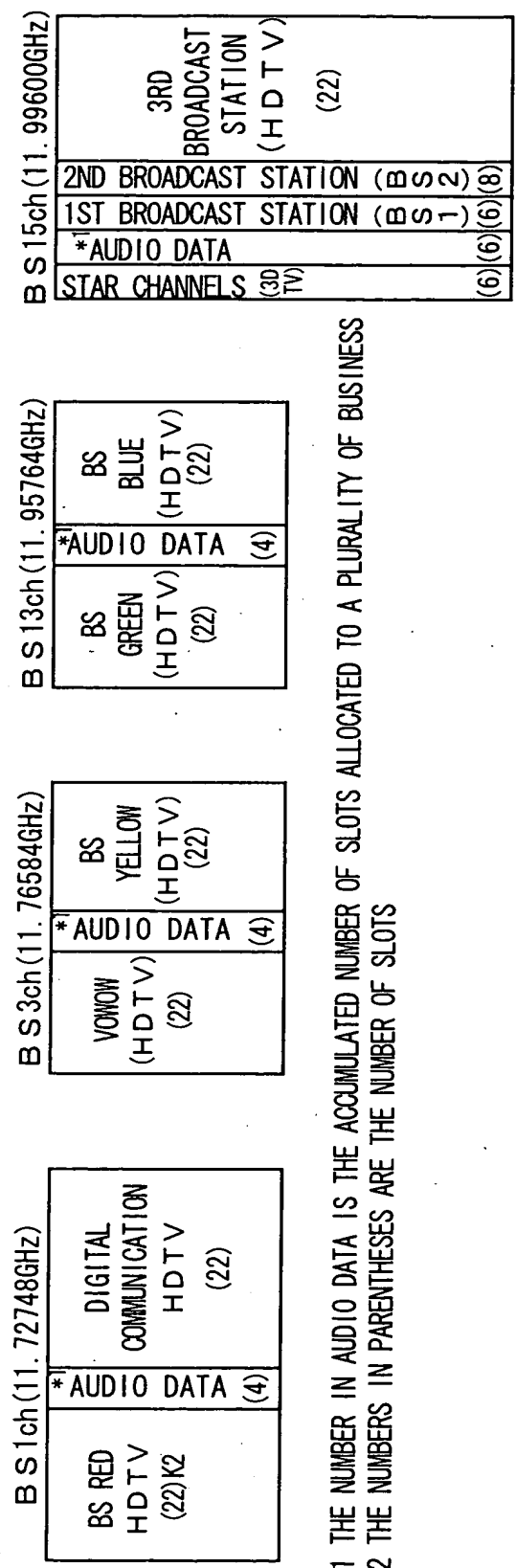


FIG. 3

BS4 LATER VERSION (BS DIGITAL BROADCAST)



*1 THE NUMBER IN AUDIO DATA IS THE ACCUMULATED NUMBER OF SLOTS ALLOCATED TO A PLURALITY OF BUSINESS
 *2 THE NUMBERS IN PARENTHESES ARE THE NUMBER OF SLOTS

FIG. 4

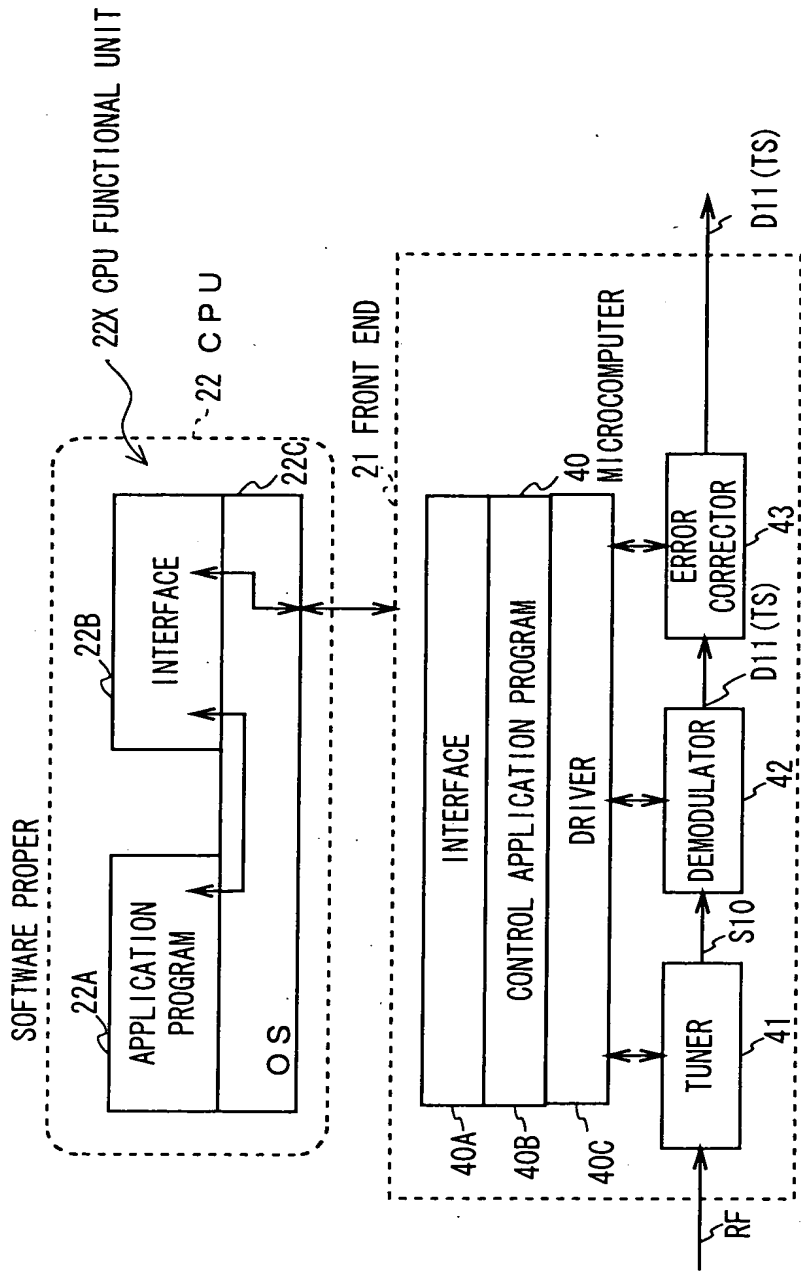


FIG. 5

10 DIGITAL BROADCAST RECEIVING SYSTEM

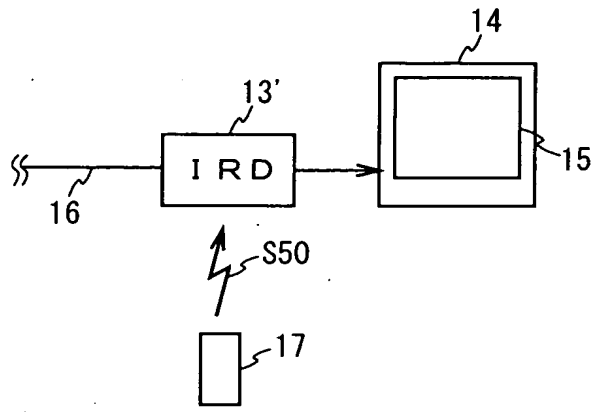


FIG. 6

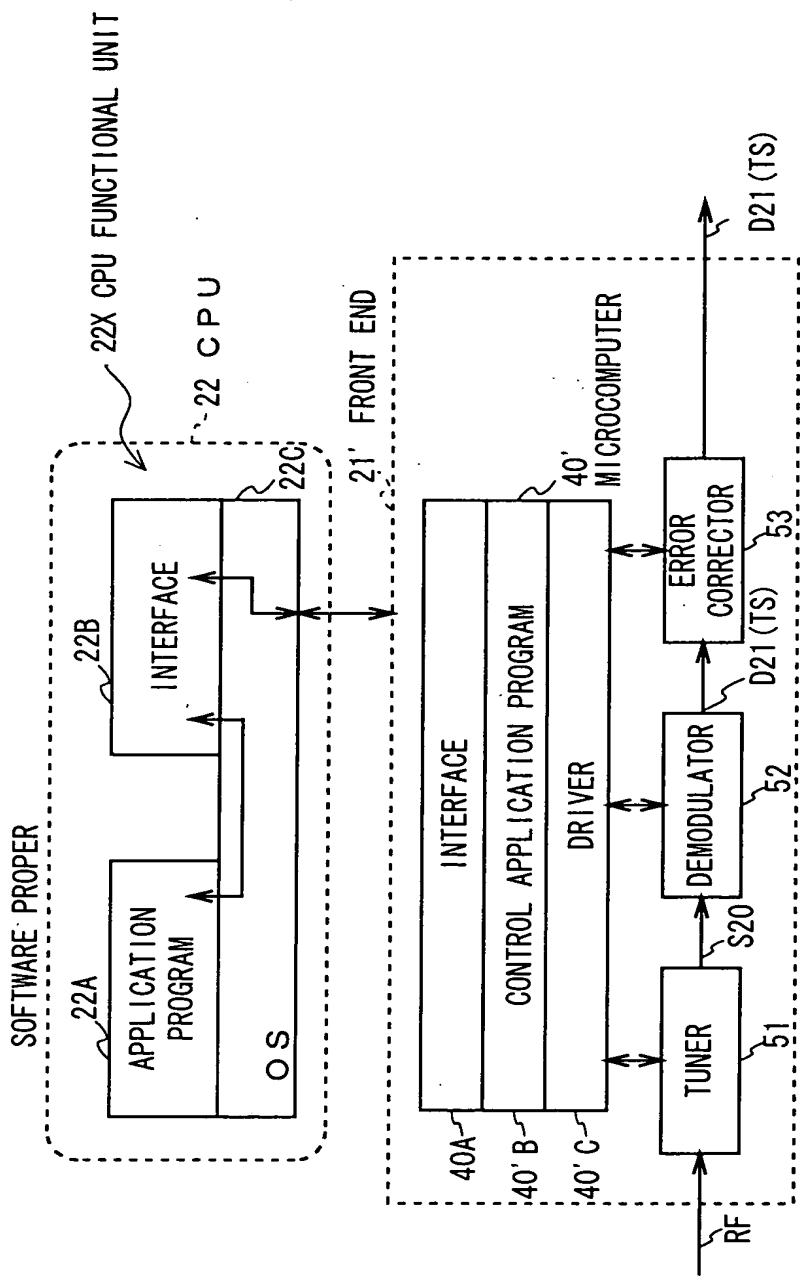


FIG. 7

| Ch No. | Center freq. | Freq. range | image fp | audio fs | fosc. | Image freq. | Ch No. | Center freq. | Freq. range | image fp | audio fs | fosc. | Image freq. |
|--------|--------------|-------------|----------|----------|-------|-------------|--------|--------------|-------------|----------|----------|-------|-------------|
| 1 | 93 | 90~96 | 91.25 | 95.75 | 150 | 208.75 | S11 | 285 | 282~288 | 283.25 | 287.75 | 342 | 400.75 |
| 2 | 99 | 96~102 | 27.25 | 101.75 | 156 | 214.75 | S12 | 291 | 288~294 | 289.25 | 293.75 | 348 | 406.75 |
| 3 | 105 | 102~108 | 103.25 | 107.75 | 162 | 220.75 | S13 | 297 | 294~300 | 295.25 | 299.75 | 354 | 412.75 |
| M1 | 111 | 108~114 | 109.25 | 113.75 | 168 | 226.75 | S14 | 303 | 300~306 | 301.25 | 305.75 | 360 | 418.75 |
| M2 | 117 | 114~120 | 115.25 | 119.75 | 174 | 232.75 | S15 | 309 | 306~312 | 307.25 | 311.75 | 366 | 424.75 |
| M3 | 123 | 120~126 | 121.25 | 125.75 | 180 | 238.75 | S16 | 315 | 312~318 | 313.25 | 317.75 | 372 | 430.75 |
| M4 | 129 | 126~132 | 127.25 | 131.75 | 186 | 244.75 | S17 | 321 | 318~324 | 319.25 | 323.75 | 378 | 436.75 |
| M5 | 135 | 132~138 | 133.25 | 137.75 | 192 | 250.75 | S18 | 327 | 324~330 | 325.25 | 329.75 | 384 | 442.75 |
| M6 | 141 | 138~144 | 139.25 | 143.75 | 198 | 256.75 | S19 | 333 | 330~336 | 331.25 | 335.75 | 390 | 448.75 |
| M7 | 147 | 144~150 | 145.25 | 149.75 | 204 | 262.75 | S20 | 339 | 336~342 | 337.25 | 341.75 | 396 | 454.75 |
| M8 | 153 | 150~156 | 151.25 | 155.75 | 210 | 268.75 | S21 | 345 | 342~348 | 343.25 | 347.75 | 402 | 460.75 |
| M9 | 159 | 156~162 | 157.25 | 161.75 | 216 | 274.75 | S22 | 351 | 348~354 | 349.25 | 353.75 | 408 | 466.75 |
| M10 | 167 | 164~170 | 165.25 | 169.75 | 224 | 282.75 | S23 | 357 | 354~360 | 355.25 | 359.75 | 414 | 472.75 |
| 4 | 173 | 170~176 | 171.25 | 175.75 | 230 | 288.75 | S24 | 363 | 360~366 | 361.25 | 365.75 | 420 | 478.75 |
| 5 | 179 | 176~182 | 177.25 | 181.75 | 236 | 294.75 | S25 | 369 | 366~372 | 367.25 | 371.75 | 426 | 484.75 |
| 6 | 185 | 182~188 | 183.25 | 187.75 | 242 | 300.75 | S26 | 375 | 372~378 | 373.25 | 377.75 | 432 | 490.75 |
| 7 | 191 | 188~194 | 189.25 | 193.75 | 248 | 306.75 | S27 | 381 | 378~384 | 379.25 | 383.75 | 438 | 496.75 |
| 8 | 195 | 192~198 | 193.25 | 197.75 | 252 | 310.75 | S28 | 387 | 384~390 | 385.25 | 389.75 | 444 | 502.75 |
| 9 | 201 | 198~204 | 199.25 | 203.75 | 258 | 316.75 | S29 | 393 | 390~396 | 391.25 | 395.75 | 450 | 508.75 |
| 10 | 207 | 204~210 | 205.25 | 209.75 | 264 | 322.75 | S30 | 399 | 396~402 | 397.25 | 401.75 | 456 | 514.75 |
| 11 | 213 | 210~216 | 211.25 | 215.75 | 270 | 328.75 | S31 | 405 | 402~408 | 403.25 | 407.75 | 462 | 520.75 |
| 12 | 219 | 216~222 | 217.25 | 221.75 | 276 | 334.75 | S32 | 411 | 408~414 | 409.25 | 413.75 | 468 | 526.75 |
| S1 | 225 | 222~228 | 223.25 | 227.75 | 282 | 340.75 | S33 | 417 | 414~420 | 415.25 | 419.75 | 474 | 532.75 |
| S2 | 233 | 230~236 | 231.25 | 235.75 | 290 | 348.75 | S34 | 423 | 420~426 | 421.25 | 425.75 | 480 | 538.75 |
| S3 | 239 | 236~242 | 237.25 | 241.75 | 296 | 354.75 | S35 | 429 | 426~432 | 427.25 | 431.75 | 486 | 544.75 |
| S4 | 245 | 242~248 | 243.25 | 247.75 | 302 | 360.75 | S36 | 435 | 432~438 | 433.25 | 437.75 | 492 | 550.75 |
| S5 | 251 | 248~254 | 249.25 | 253.75 | 308 | 366.75 | S37 | 441 | 438~444 | 439.25 | 443.75 | 498 | 556.75 |
| S6 | 255 | 252~258 | 253.25 | 257.75 | 312 | 370.75 | S38 | 447 | 444~450 | 445.25 | 449.75 | 504 | 562.75 |
| S7 | 261 | 258~264 | 259.25 | 263.75 | 318 | 376.75 | S39 | 453 | 450~456 | 451.25 | 455.75 | 510 | 568.75 |
| S8 | 267 | 264~270 | 265.25 | 269.75 | 324 | 382.75 | S40 | 459 | 456~462 | 457.25 | 461.75 | 516 | 574.75 |
| S9 | 273 | 270~276 | 271.25 | 275.75 | 330 | 388.75 | S41 | 465 | 462~468 | 463.25 | 467.75 | 522 | 580.75 |
| S10 | 279 | 276~282 | 277.25 | 281.75 | 336 | 394.75 | | | | | | | |

FIG. 8

| POLARIZED WAVE | CHANNEL INDICATION | | RECEIVING FREQUENCY OF TUNER | | | |
|-------------------|--|------------------------------------|------------------------------|---------|---------|-----------|
| | COMMUNICATION CHANNEL INDICATION | BROADCAST CHANNEL INDICATION | DL FREQUENCY | 11.2GHz | 11.3GHz | 10.678GHz |
| V | K1 | JD17 | 12.268GHz | 1068MHz | 968MHz | 1590MHz |
| H | K2 | JD18 | 12.288GHz | 1088MHz | 988MHz | 1610MHz |
| V | K3 | JD19 | 12.308GHz | 1108MHz | 1008MHz | 1630MHz |
| H | K4 | JD20 | 12.328GHz | 1128MHz | 1028MHz | 1650MHz |
| V | K5 | JD21 | 12.348GHz | 1148MHz | 1048MHz | 1670MHz |
| H | K6 | JD22 | 12.368GHz | 1168MHz | 1068MHz | 1690MHz |
| V | K7 | JD23 | 12.388GHz | 1188MHz | 1088MHz | 1710MHz |
| H | K8 | JD24 | 12.408GHz | 1208MHz | 1108MHz | 1730MHz |
| V | K9 | JD25 | 12.428GHz | 1228MHz | 1128MHz | 1750MHz |
| H | K10 | JD26 | 12.448GHz | 1248MHz | 1148MHz | 1770MHz |
| V | K11 | JD27 | 12.468GHz | 1268MHz | 1168MHz | 1790MHz |
| H | K12 | JD28 | 12.488GHz | 1288MHz | 1188MHz | 1810MHz |
| V | K13 | JD1 | 12.508GHz | 1308MHz | 1208MHz | 1830MHz |
| H | K14 | JD2 | 12.523GHz | 1323MHz | 1223MHz | 1845MHz |
| V | K15 | JD3 | 12.538GHz | 1338MHz | 1238MHz | 1860MHz |
| H | K16 | JD4 | 12.553GHz | 1353MHz | 1253MHz | 1875MHz |
| V | K17 | JD5 | 12.568GHz | 1368MHz | 1268MHz | 1890MHz |
| H | K18 | JD6 | 12.583GHz | 1383MHz | 1283MHz | 1905MHz |
| V | K19 | JD7 | 12.598GHz | 1398MHz | 1298MHz | 1920MHz |
| H | K20 | JD8 | 12.613GHz | 1413MHz | 1313MHz | 1935MHz |
| V | K21 | JD9 | 12.628GHz | 1428MHz | 1328MHz | 1950MHz |
| H | K22 | JD10 | 12.643GHz | 1443MHz | 1343MHz | 1965MHz |
| V | K23 | JD11 | 12.658GHz | 1458MHz | 1358MHz | 1980MHz |
| H | K24 | JD12 | 12.673GHz | 1473MHz | 1373MHz | 1995MHz |
| V | K25 | JD13 | 12.688GHz | 1488MHz | 1388MHz | 2010MHz |
| H | K26 | JD14 | 12.703GHz | 1503MHz | 1403MHz | 2025MHz |
| V | K27 | JD15 | 12.718GHz | 1518MHz | 1418MHz | 2040MHz |
| H | K28 | JD16 | 12.733GHz | 1533MHz | 1433MHz | 2055MHz |

FIG. 9

| Ch No. | Center freq. | Freq. range | image fp | audio fs | fosc. | Image freq. | Ch No. | Center freq. | Freq. range | image fp | audio fs | fosc. | Image freq. |
|--------|--------------|-------------|----------|----------|-------|-------------|--------|--------------|-------------|----------|----------|-------|-------------|
| 1 | 93 | 90~96 | 91.25 | 95.75 | 150 | 208.75 | 32 | 587 | 584~590 | 585.25 | 589.75 | 644 | 702.25 |
| 2 | 99 | 96~102 | 27.25 | 101.75 | 156 | 214.75 | 33 | 593 | 590~596 | 591.25 | 595.75 | 650 | 708.75 |
| 3 | 105 | 102~108 | 103.25 | 107.75 | 162 | 220.75 | 34 | 599 | 596~602 | 597.25 | 601.75 | 656 | 714.75 |
| 4 | 173 | 170~176 | 171.25 | 175.75 | 230 | 288.75 | 35 | 605 | 602~608 | 603.25 | 607.75 | 662 | 720.75 |
| 5 | 179 | 176~182 | 177.25 | 181.75 | 236 | 294.75 | 36 | 611 | 608~614 | 609.25 | 613.75 | 668 | 726.75 |
| 6 | 185 | 182~188 | 183.25 | 187.75 | 242 | 300.75 | 37 | 627 | 614~620 | 615.25 | 619.75 | 674 | 732.75 |
| 7 | 191 | 188~194 | 189.25 | 193.75 | 248 | 306.75 | 38 | 623 | 620~626 | 621.25 | 625.75 | 680 | 738.75 |
| 8 | 195 | 192~198 | 193.25 | 197.75 | 252 | 310.75 | 39 | 629 | 626~632 | 627.25 | 631.75 | 686 | 744.75 |
| 9 | 201 | 198~204 | 199.25 | 203.75 | 258 | 316.75 | 40 | 635 | 632~638 | 633.25 | 637.75 | 692 | 750.75 |
| 10 | 207 | 204~210 | 205.25 | 209.75 | 264 | 322.75 | 41 | 641 | 638~644 | 639.25 | 643.75 | 698 | 756.75 |
| 11 | 213 | 210~216 | 211.25 | 215.75 | 270 | 328.75 | 42 | 647 | 644~650 | 645.25 | 649.75 | 704 | 762.75 |
| 12 | 219 | 216~222 | 217.25 | 221.75 | 276 | 334.75 | 43 | 653 | 650~656 | 651.25 | 655.75 | 710 | 768.75 |
| 13 | 473 | 470~476 | 471.25 | 475.75 | 530 | 588.75 | 44 | 659 | 656~662 | 657.25 | 661.75 | 716 | 774.75 |
| 14 | 479 | 476~482 | 477.25 | 481.75 | 536 | 594.75 | 45 | 665 | 662~668 | 663.25 | 667.75 | 722 | 780.75 |
| 15 | 485 | 482~488 | 483.25 | 487.75 | 542 | 600.75 | 46 | 671 | 668~674 | 669.25 | 673.75 | 728 | 786.75 |
| 16 | 491 | 488~494 | 489.25 | 493.75 | 548 | 606.75 | 47 | 677 | 674~680 | 675.25 | 679.75 | 734 | 792.75 |
| 17 | 497 | 494~500 | 495.25 | 499.75 | 554 | 612.75 | 48 | 683 | 680~686 | 681.25 | 685.75 | 740 | 798.75 |
| 18 | 503 | 500~506 | 501.25 | 505.75 | 560 | 618.75 | 49 | 689 | 686~692 | 687.25 | 691.75 | 746 | 804.75 |
| 19 | 509 | 506~512 | 507.25 | 511.75 | 566 | 624.75 | 50 | 695 | 692~698 | 693.25 | 697.75 | 752 | 810.75 |
| 20 | 515 | 512~518 | 513.25 | 517.75 | 572 | 630.75 | 51 | 701 | 698~704 | 699.25 | 703.75 | 758 | 816.75 |
| 21 | 521 | 518~524 | 519.25 | 523.75 | 578 | 636.75 | 52 | 707 | 704~710 | 705.25 | 709.75 | 764 | 822.75 |
| 22 | 527 | 524~530 | 525.25 | 529.75 | 584 | 642.75 | 53 | 713 | 710~716 | 711.25 | 715.75 | 770 | 828.75 |
| 23 | 533 | 530~536 | 531.25 | 535.75 | 590 | 648.75 | 54 | 719 | 716~722 | 717.25 | 721.75 | 776 | 834.75 |
| 24 | 539 | 536~542 | 537.25 | 541.75 | 596 | 654.75 | 55 | 725 | 722~728 | 723.25 | 727.75 | 782 | 840.75 |
| 25 | 545 | 542~548 | 543.25 | 547.75 | 602 | 660.75 | 56 | 731 | 728~734 | 729.25 | 733.75 | 788 | 846.75 |
| 26 | 551 | 548~554 | 549.25 | 553.75 | 608 | 666.75 | 57 | 737 | 734~740 | 735.25 | 739.75 | 794 | 852.75 |
| 27 | 557 | 554~560 | 555.25 | 559.75 | 614 | 672.75 | 58 | 743 | 740~746 | 741.25 | 745.75 | 800 | 858.75 |
| 28 | 563 | 560~566 | 561.25 | 565.75 | 620 | 678.75 | 59 | 749 | 746~752 | 747.25 | 751.75 | 806 | 864.75 |
| 29 | 569 | 566~572 | 567.25 | 571.75 | 626 | 684.75 | 60 | 755 | 752~758 | 753.25 | 757.75 | 812 | 870.75 |
| 30 | 575 | 572~578 | 573.25 | 577.75 | 632 | 690.75 | 61 | 761 | 758~764 | 759.25 | 763.75 | 818 | 876.75 |
| 31 | 581 | 578~584 | 579.25 | 583.75 | 638 | 696.75 | 62 | 767 | 764~770 | 765.25 | 769.75 | 824 | 882.75 |

FIG.10

| | USA | EUROPE | JAPAN |
|-------------|------------------|---------------------------|-----------------------|
| SATELLITE | DSS/DVB | DVB (QPSK) | DVB (QPSK) (TCM-8PSK) |
| CATV | SCIE (64/256QAM) | DVB (16/32/64/128/256QAM) | DVB (64QAM) |
| GROUND WAVE | 8VSB | DVB (COFDM) | ISDB-T (OFDM) |

FIG. 11

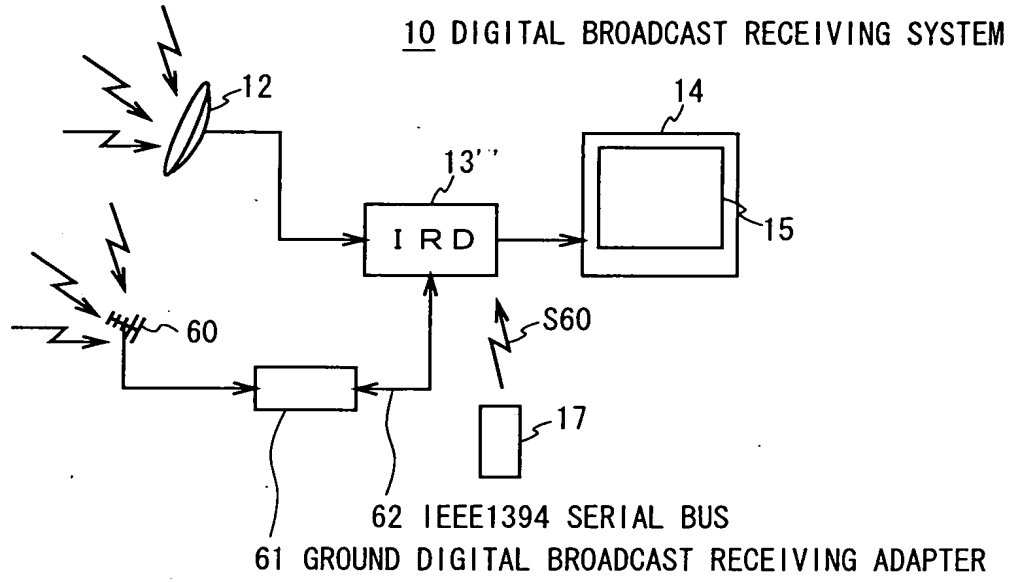


FIG. 12

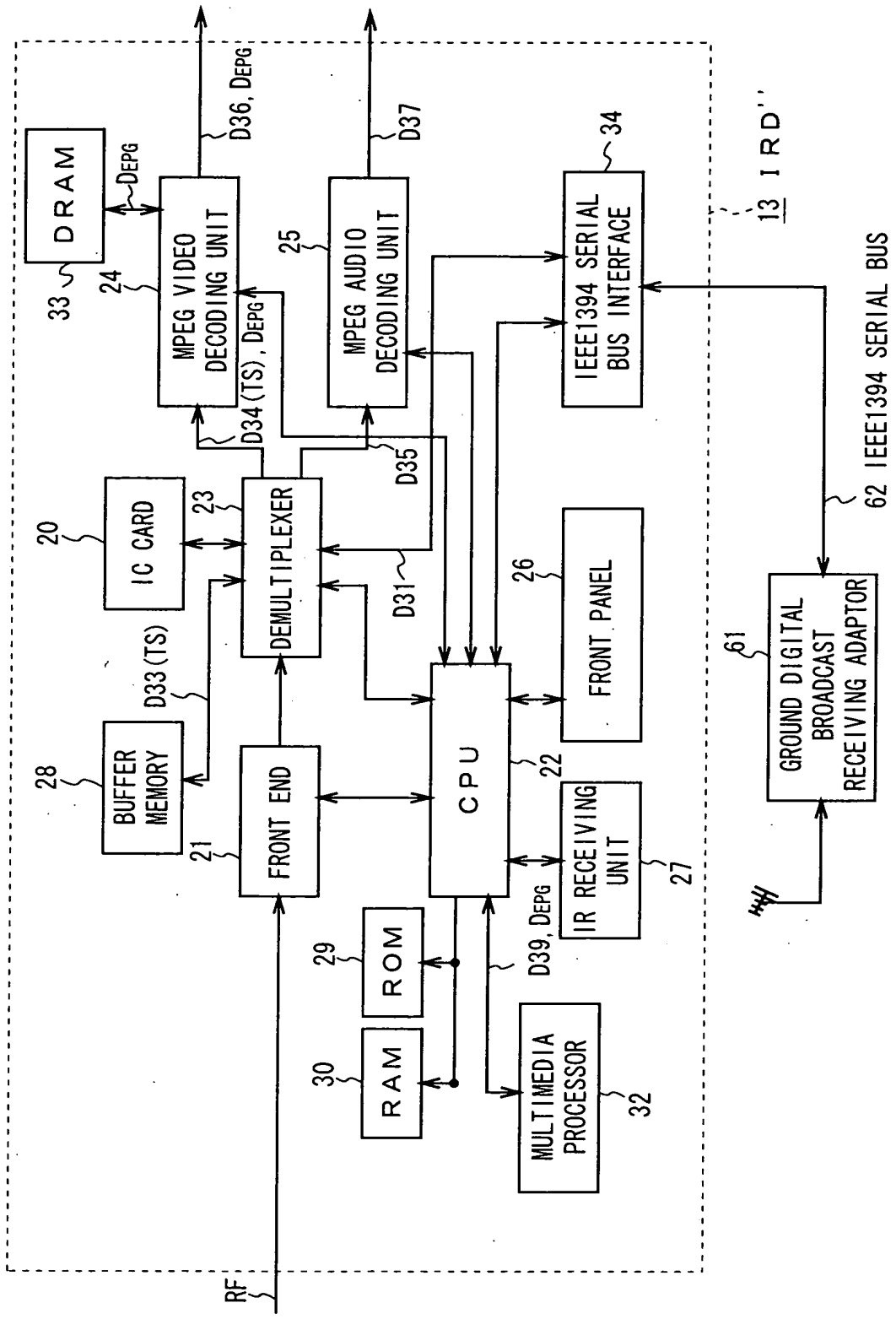


FIG. 13

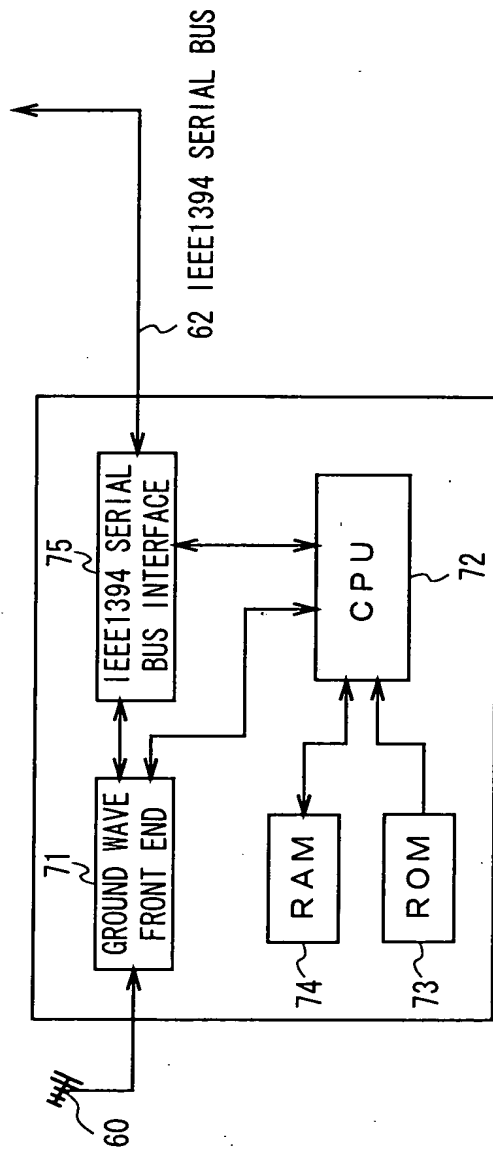


FIG. 14

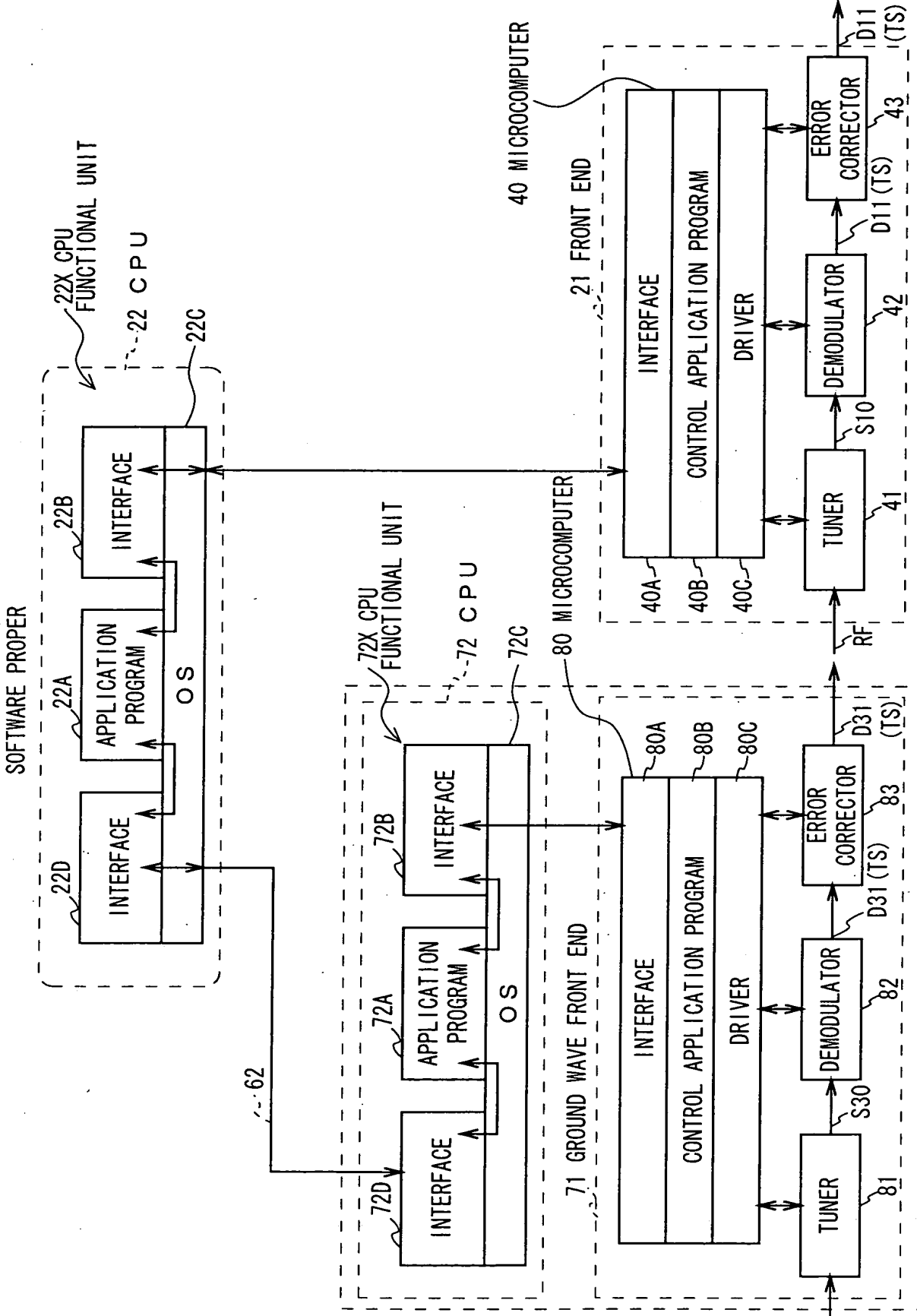


FIG. 15

61 GROUND WAVE FRONT END RECEIVING ADAPTER

Explanation of Reference Numerals

13, 13', 13" --- IRD, 21 --- front end, 22, 72 --- CPU, 24 -
 -- MPEG video demodulator, 25 --- MPEG audio demodulator, 29 ---
 ROM, 34, 75 --- IEEE1394 serial bus interface, 40, 40', 80 ---
 microcomputer, 41, 51, 81 --- tuner, 42, 52, 82 --- demodulator,
 43, 53, 83 --- error corrector, 61 --- ground digital broadcast
 receiving adapter, 62 --- IEEE1394 serial bus, 71 --- ground wave
 front end, 73 ---ROM, 74 --- RAM